

# LTC 5104, LTC 5108 Series



Security Systems

EN | Instruction Manual  
4- and 8-Position  
Premium Sequential  
Switchers

**BOSCH**

## Important Safeguards

1. **Read, Follow, and Retain Instructions** - All safety and operating instructions should be read and followed before operating the unit. Retain instructions for future reference.
2. **Heed Warnings** – Adhere to all warnings on the unit and in the operating instructions.
3. **Attachments** - Attachments not recommended by the product manufacturer should not be used, as they may cause hazards.
4. **Installation Cautions** - Do not place this unit on an unstable stand, tripod, bracket, or mount. The unit may fall, causing serious injury to a person and serious damage to the unit. Use only manufacturer-recommended accessories, or those sold with the product. Mount the unit per the manufacturer's instructions. Appliance and cart combination should be moved with care. Quick stops, excessive force, or uneven surfaces may cause the appliance and cart combination to overturn.
5. **Cleaning** - Unplug the unit from the outlet before cleaning. Follow any instructions provided with the unit. Generally, using a damp cloth for cleaning is sufficient. Do not use liquid cleaners or aerosol cleaners.
6. **Servicing** - Do not attempt to service this unit yourself. Opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
7. **Damage Requiring Service** - Unplug the unit from the main AC power source and refer servicing to qualified service personnel under the following conditions:
  - When the power supply cord or plug is damaged.
  - If liquid has been spilled or an object has fallen into the unit.
  - If the unit has been exposed to water and/or inclement weather (rain, snow, etc.).
  - If the unit does not operate normally, when following the operating instructions. Adjust only those controls specified in the operating instructions. Improper adjustment of other controls may result in damage, and require extensive work by a qualified technician to restore the unit to normal operation.
  - If the unit has been dropped or the cabinet damaged.
  - If the unit exhibits a distinct change in performance, this indicates that service is needed.
8. **Replacement Parts** - When replacement parts are required, the service technician should use replacement parts specified by the manufacturer, or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electrical shock, or other hazards.
9. **Safety Check** - Upon completion of servicing or repairs to the unit, ask the service technician to perform safety checks to ensure proper operating condition.
10. **Power Sources** - Operate the unit only from the type of power source indicated on the label. If unsure of the type of power supply to use, contact your dealer or local power company.
  - For units intended to operate from battery power, refer to the operating instructions.
  - For units intended to operate **with External Power Supplies**, use only the recommended approved power supplies.
  - For units intended to operate with a limited power source, this power source must comply with EN60950. Substitutions may damage the unit or cause fire or shock.
  - For units intended to operate at 24 VAC, normal input voltage is **24 VAC**. Voltage applied to the unit's power input should not exceed 30 VAC. User-supplied wiring, from the 24 VAC supply to unit, must be in compliance with electrical codes (Class 2 power levels). Do not ground the 24 VAC supply at the terminals or at the unit's power supply terminals.
11. **Coax Grounding** - If an outside cable system is connected to the unit, ensure that the cable system is grounded. U.S.A. models only--Section 810 of the National Electrical Code, ANSI/NFPA No. 70, provides information regarding proper grounding of the mount and supporting structure, grounding of the coax to a discharge unit, size of grounding conductors, location of discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
12. **Grounding or Polarization** - This unit may be equipped with a polarized alternating current line plug (a plug with one blade wider than the other). This safety feature allows the plug to fit into the power outlet in only one way. If unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact an electrician to arrange replacement of the obsolete outlet. Do not defeat the safety purpose of the polarized plug. Alternately, this unit may be equipped with a 3-wire grounding plug (a plug with a third pin, for grounding). This safety feature allows the plug to fit into a grounding power outlet only. If unable to insert the plug into the outlet, contact an electrician to arrange replacement of the obsolete outlet. Do not defeat the safety purpose of the grounding plug.
13. **Lightning** - For added protection during a lightning storm, or when this unit is left unattended and unused for long periods of time, unplug the unit from the wall outlet and disconnect the cable system. This will prevent damage to the unit due to lightning and power line surges.

### For Indoor Product

1. **Water and Moisture** - Do not use this unit near water - for example, in a wet basement, in an unprotected outdoor installation, or in any area classified as a wet location.
2. **Object and Liquid Entry** - Never push objects of any kind into this unit through openings, as they may touch dangerous voltage points or short out parts that could result in a fire or electrical shock. Never spill liquid of any kind on the unit.
3. **Power Cord and Power Cord Protection** - For units intended to operate with 230 VAC, 50 Hz, the input and output power cord must comply with the latest versions of IEC Publication 227 or IEC Publication 245.  
Power supply cords should be routed so they are not likely to be walked on or pinched. Pay particular attention to location of cords and plugs, convenience receptacles, and the point of exit from the appliance.
4. **Overloading** - Do not overload outlets and extension cords; this can result in a risk of fire or electrical shock.

### For Outdoor Product

**Power Lines** - An outdoor system should not be located in the vicinity of overhead power lines, electric lights, or power circuits, or where it may contact such power lines or circuits. When installing an outdoor system, extreme care should be taken to keep from touching power lines or circuits, as this contact might be fatal. U.S.A. models only - refer to the National Electrical Code Article 820 regarding installation of CATV systems.

### For Rack-Mount Product

1. **Ventilation** - This unit should not be placed in a built-in installation or rack, unless proper ventilation is provided, or the manufacturer's instructions have been adhered to. The equipment must not exceed its maximum operating temperature requirements.
2. **Mechanical Loading** - Mounting of the equipment in a rack shall be such that a hazardous condition is not achieved due to uneven mechanical loading.

## Safety Precautions



### CAUTION

RISK OF ELECTRIC SHOCK. DO NOT OPEN!



**CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**



The lightning flash with an arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



Attention: Installation should be performed by qualified service personnel only in accordance with the National Electrical Code or applicable local codes.



**Power Disconnect.** Units with or without ON-OFF switches have power supplied to the unit whenever the power cord is inserted into the power source; however, the unit is operational only when the ON-OFF switch is in the ON position. The power cord is the main power disconnect for all units.

## FCC & ICES INFORMATION

### (U.S.A. and Canadian Models Only)

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules and ICES-003 of Industry Canada. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer, or an experienced radio/TV technician for help.

Intentional or unintentional changes or modifications, not expressly approved by the party responsible for compliance, shall not be made. Any such changes or modifications could void the user's authority to operate the equipment.


The user may find the following booklet, prepared by the Federal Communications Commission, helpful:


[How to Identify and Resolve Radio-TV Interference Problems](#)


This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.


## Sécurité

	<b>ATTENTION</b> RISQUE D'ÉLECTROCUTION. NE PAS OUVRIR!	
<b>ATTENTION : POUR ÉVITER TOUT RISQUE D'ÉLECTROCUTION, NE PAS OUVRIR LE BOÎTIER. IL N'Y A PAS DE PIÈCES REMPLAÇABLES À L'INTÉRIEUR. POUR TOUTE INTERVENTION, S'ADRESSER À UN RÉPARATEUR PROFESSIONNEL COMPÉTENT.</b>		


	L'éclair fléché dans un triangle équilatéral avertit l'utilisateur de la présence d'une « tension dangereuse » non isolée à l'intérieur de l'appareil et d'une valeur suffisante pour constituer un risque d'électrocution.
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	Le point d'exclamation contenu dans un triangle équilatéral avertit l'utilisateur de la présence, dans la documentation qui accompagne l'appareil, d'importantes consignes d'utilisation et de maintenance.
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	Attention : L'installation doit être exclusivement effectuée par un technicien spécialisé conformément à la réglementation du code national de l'électricité des États-Unis (NEC) ou à la réglementation locale.
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	Coupeure de l'alimentation. Les appareils avec ou sans commutateur ON-OFF (marche-arrêt) sont alimentés dès que le cordon d'alimentation est branché à la source d'alimentation ; toutefois, les appareils disposant d'un commutateur de marche-arrêt ne fonctionnent que lorsque celui-ci est sur la position ON (marche). Le cordon d'alimentation est l'organe de coupeure principal de l'alimentation pour tous les appareils.
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## Sicherheitshinweise

	<b>VORSICHT</b> ELEKTRISCHE SPANNUNG. NICHT ÖFFNEN!	
<p><b>VORSICHT: DAS GEHÄUSE ZUR VERMEIDUNG VON ELEKTRISCHEN SCHLÄGEN NICHT ÖFFNEN. DAS GERÄT ENTHÄLT KEINE VOM BENUTZER ZU WARTENDEN TEILE. REPARATUREN NUR VON FACHPERSONAL AUSFÜHREN LASSEN.</b></p>		


	<p>Das Blitzsymbol im gleichseitigen Dreieck soll den Benutzer auf nicht isolierte "gefährliche Spannung" im Produkt hinweisen, die ausreichend stark sein kann, um die Gefahr von elektrischen Schlägen für Menschen darzustellen.</p>
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	<p>Das Ausrufungszeichen im gleichseitigen Dreieck soll den Benutzer auf wichtige Bedienungs- und Wartungsanweisungen in der Dokumentation hinweisen, die dem Gerät beiliegt.</p>
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	<p>Achtung: Die Installation darf nur von qualifiziertem Wartungspersonal gemäß dem National Electrical Code oder den gültigen örtlichen Vorschriften durchgeführt werden.</p>
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	<p>Abtrennen der Spannungsversorgung: Die Spannungsversorgung zu Geräten mit und ohne Ein/Aus-Schalter ist hergestellt, wenn das Netzkabel an eine Netzsteckdose angeschlossen ist. Das Gerät ist jedoch nur betriebsbereit, wenn der Ein/Aus-Schalter eingeschaltet ist. Bei allen Geräten erfolgt das Abtrennen der Spannungsversorgung über das Netzkabel.</p>
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## Precauciones de Seguridad

	<b>PRECAUCIÓN</b> RIESGO DE DESCARGA ELÉCTRICA ¡NO ABRIR!	
<p><b>PRECAUCIÓN: PARA REDUCIR EL RIESGO DE DESCARGA ELÉCTRICA, NO ABRA LAS TAPAS. EN EL INTERIOR NO HAY NINGÚN COMPONENTE REPARABLE POR EL USUARIO. LAS REPARACIONES DEBE REALIZARLAS PERSONAL CUALIFICADO.</b></p>		

	<p>El símbolo de flecha en forma de rayo situado dentro de un triángulo equilátero pretende alertar al usuario de la presencia de "voltaje peligroso" sin aislamiento dentro de la caja del producto, el cual podría resultar de una magnitud suficiente como para presentar un riesgo de descarga eléctrica para las personas.</p>
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	<p>El punto de exclamación dentro de un triángulo equilátero pretende alertar al usuario de la existencia de instrucciones de funcionamiento y mantenimiento (reparación) en la documentación suministrada con el aparato.</p>
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	<p>Atención: La instalación debe realizarla personal cualificado en cumplimiento estricto del código eléctrico nacional (en el caso de los EE.UU.) o de los códigos locales aplicables.</p>
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	<p>Para Desconectar la Alimentación: Unidades no equipadas con interruptores ON/OFF, son alimentadas cuando el cable de alimentación es conectado a la corriente eléctrica. Las unidades equipadas con interruptores son alimentadas de igual forma, pero adicionalmente requieren que el interruptor esté posicionado en ON. El cable de alimentación es el medio principal de desconexión del equipo.</p>
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## Veiligheidsmaatregelen




**VOORZICHTIG**


GEVAARVOOR ELEKTRISCHE SCHOK.  
NIET OPENEN!




**GEVAAR: OPEN DEZE BEHUIZING NIET, TENEINDE HET RISICO VAN ELEKTRISCHE SCHOKKEN TE VOORKOMEN. BINNENIN BEVINDEN ZICH GEEN DOOR DE GEBRUIKER TE REPAREREN ONDERDELEN. RAADPLEEG VOOR REPARATIE GEKWALIFICEERD SERVICEPERSONEEL.**




Het symbool van een bliksem met pijlpunt in een gelijkzijdige driehoek is bedoeld om de gebruiker te waarschuwen voor de aanwezigheid van een niet geïsoleerde 'gevaarlijke spanning' binnen in de behuizing van het product, die voldoende sterk kan zijn om personen het risico van een elektrische schok te geven.



Het symbool van een uitroepteken in een gelijkzijdige driehoek is bedoeld om de gebruiker te waarschuwen voor de aanwezigheid van belangrijke bedienings- en onderhouds- (service-) instructies in de documentatie die met het product zijn meegeleverd.



Attentie: De installatie dient alleen te worden uitgevoerd door gekwalificeerd servicepersoneel en in overeenstemming met de plaatselijk geldende installatievoorschriften.



Onderbreken van de spanning. Units met of zonder AAN/UIT-schakelaar, staan onder spanning zolang het netsnoer is verbonden met de wandcontactdoos. De unit is echter alleen bedrijfsklaar als de AAN/UIT-schakelaar in de AAN-stand staat. Losnemen van het netsnoer is voor alle units de belangrijkste manier om de spanning te onderbreken.

## Sicurezza




**ATTENZIONE**


PERICOLO DI SCOSSA ELETTRICA.  
NON APRIRE.




**ATTENZIONE: PER RIDURRE IL PERICOLO DI SCOSSA ELETTRICA, NON APRIRE LE COPERTURE. L'INTERNO NON CONTIENE COMPONENTI CHE L'UTENTE PUÒ RIPARARE PERSONALMENTE. RIVOLGERSI AL PERSONALE DI ASSISTENZA QUALIFICATO PER QUALSIASI INTERVENTO DI RIPARAZIONE.**




Il simbolo triangolare di un fulmine con la punta a freccia intende mettere in allerta l'utente riguardo alla presenza di tensioni pericolose non isolate all'interno del guscio dell'unità, che potrebbero essere di intensità sufficiente per costituire pericolo di elettrocuzione.



Il punto esclamativo racchiuso in un triangolo equilatero intende avvisare l'utente in merito alla presenza di importanti istruzioni operative e di manutenzione nella documentazione di accompagnamento all'unità.



Precauzione: affidare l'installazione al solo personale qualificato e nel rispetto del Codice elettrico nazionale (USA) o dei codici locali pertinenti.



Scollegamento dell'alimentazione. Gli apparecchi con o senza commutatori ON-OFF ricevono corrente tutte le volte che il cavo di alimentazione è inserito nella presa di forza; tuttavia, gli apparecchi muniti di commutatore ON-OFF funzionano solo se quest'ultimo è in posizione ON. Il cavo di alimentazione serve a scollegare dalla corrente tutti gli apparecchi.

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## 1 UNPACKING

Unpack carefully. This is electronic equipment and should be handled with care.

Check for the following items:

- Verify the unit model number.
- One (1) cable assembly with 15-pin connector.

If an item appears to have been damaged in shipment, replace it properly in its carton and notify the shipper. If any items are missing, notify your Bosch Security Systems, Inc. Sales Representative or Customer Service.

The shipping carton is the safest container in which the unit may be transported. Save it for possible future use.

## 2 SERVICE

If the unit ever needs repair service, the customer should contact the nearest Bosch Security Systems, Inc. Service Center for authorization to return and shipping instructions.

### Service Centers

USA: Phone: 800-366-2283 or 717-735-6638  
 fax: 800-366-1329 or 717-735-6639

#### CCTV Spare Parts

Phone: 800-894-5215 or 408-956-3853 or 3854  
 fax: 408-957-3198  
 e-Mail: BoschCCTVparts@ca.slr.com

Canada: 514-738-2434

Europe, Middle East & Asia Pacific Region:  
 32-1-440-0711

For additional information, see  
[www.boschsecuritysystems.com](http://www.boschsecuritysystems.com).

## 3 DESCRIPTION

The LTC 5104 Series and LTC 5108 Series are automatic sequential video switchers. The LTC 5104 Series have 4-camera inputs and 1-monitor output; the LTC 5108 Series have 8-camera inputs and 2-monitor outputs.

## 4 INSTALLATION

### 4.1 Power

Model No. <sup>1</sup>	Rated Voltage	Voltage Range Rated	Power at Voltage
LTC 5104/60	120 VAC, 50/60 Hz	105 to 130	4 W
LTC 5104/50	220-240 VAC, 50/60 Hz	198 to 264	4 W
LTC 5108/60	120 VAC, 50/60 Hz	105 to 130	4 W
LTC 5108/50	220-240 VAC, 50/60 Hz	198 to 264	4 W

<sup>1</sup>Models shown are for English on-screen menu model. The model number and operating voltage are shown on the bottom of the unit. These units are supplied with grounded power cords; grounding must not be defeated.

### 4.2 Mounting

These switchers are half rack units and are supplied as desk top units. For rack mounting, the LTC 9101/00 rack-mount kit is available.

### 4.3 Video Inputs and Looping Outputs

For each of the 4 or 8 channels, there are two BNC connectors on the rear panel. One of these connectors is to be used as a video input while the other connector may be used as a looping output. It does not matter which connector is used as the input and which is used as the looping output. Each pair of BNCs provides an automatic termination function that applies a 75  $\Omega$  load to the incoming video signal when the cable is connected to either jack. When "loop-through" operation is desired, the second cable connection automatically unterminates the input providing the required high impedance for "loop-through" operation. The jacks act as automatic switches. The looping video outputs are provided to supply video to other video equipment. When looping, the last piece of equipment on the video line should be terminated.

### 4.4 Monitor Output

The monitor outputs are designed for a 75  $\Omega$  load. Therefore, when looping the monitor output cable through multiple monitors or their accessories, ensure their terminations are set to Hi-Z. Only the last unit on the line should have its termination set to 75  $\Omega$ .

LTC 5104 Series: A single monitor output permits switched camera video through this connection.

LTC 5108 Series: These switchers may be used with one or two monitors, depending on system requirements. See *Operating Mode* section and *Typical Installation* illustration.



## 4.5 Alarm Inputs and Output

### (Accessory Output)

A cable with a connector is supplied to connect alarm closures or other accessories to the switcher.

The alarm inputs can be triggered by either a contact closure selectable normally open or closed (e.g., switch or relay) to ground or by a logic ground (e.g., motion detector output).

The alarm output creates a short between the two output pins when an alarm occurs and open circuits the pins when no alarms are active (triggered). The alarm output has a maximum carrying current of 1 A and a maximum switching voltage of 40 V AC/DC. The alarm output can be used to signal a VCR, lamp, or relay.



**CAUTION:** Do not apply external voltages to the alarm inputs. Use only isolated closures. Precautions should be taken particularly on long runs to prevent pickup of spurious signals from associated wiring, which may give false inputs or damage the switcher.

## 4.6 Programming System Setup

Configuration options are provided through on-screen menus. These menus are accessed by using the **DWELL** key. With video present on the monitor, a momentary press and release of the **DWELL** key will gain easy access to the *Dwell Time Menu* (see SCREEN 1).



Screen 1

The remaining configuration menus (8 for the LTC 5104 Series and 9 for the LTC 5108 Series) are also accessed with the **DWELL** key. With video present on the monitor, press and hold the **DWELL** key for 1 second; the monitor will display SCREEN 2.



Screen 2

To advance through these seven or eight menus, press **RUN/next**. When the last menu is displayed, **RUN/next** automatically exits the configuration mode. The configuration mode also exits automatically if there is no activity for 60 seconds. Use **DWELL** again to exit the configuration mode immediately. Any changes made during configuration are acknowledged regardless of how the configuration mode is exited.

## 4.7 Resetting to Default Programming

To restore factory default program settings, press and hold **SKIP/clr** and then press the **ALARM** key for one second (see SCREEN 3).



Screen 3

- To abort and resume normal operation, press **DWELL**.
- To reset to factory defaults, press **SKIP/clr**, moving the cursor to *RESET*, then press **DWELL**. This option also performs a VideoSearch.

NOTE: Resetting the unit to factory defaults will not reset the title characters to be blank.

#### 4.8 Dwell Time

This menu (see SCREEN 1) is used to program dwell times of 1 second to 64 seconds for the cameras. There are two modes of dwell that may be chosen; *All Cameras* and *Individual Cameras*. *All Cameras* mode sets the displayed dwell time for all four or eight cameras. *Individual Cameras* mode sets the displayed dwell time for only the camera number indicated on-screen. Upon entry into the *Dwell Time* menu, the dwell mode defaults to *All Cameras*. The *Individual Cameras* mode is entered using the numeric keys or the **RUN/next key**. **RUN/next key** selects individual camera dwell times by sequencing forward. Each numeric key selects that particular camera input. The video of the selected individual camera will be displayed (on the monitor for LTC 5104 Series, or on both monitors for the LTC 5108 Series), provided the camera input has not been skipped. If a camera input is skipped, its dwell time menu can be entered but the unit will not switch video to that camera input. Since no dwell menu can be displayed if there is no video to that input, it is recommended to skip all camera inputs without video before attempting to set individual dwell times. Once in *Individual* mode, the *Dwell Time* menu must be exited and re-entered if *All Cameras* mode is desired. **SKIP/clr** decreases displayed dwell time, and **ALARM** increases dwell time. The default is *All Cameras* with a dwell of three seconds.

#### 4.9 Operating Mode LTC 5108 Series Only

Two modes of operation can be selected for the LTC 5108 Series switchers (see SCREEN 2). The two modes only affect Monitor B; Monitor A continuously sequences regardless of mode. In the *Sequencing Mode*, Monitor B will show either an alarm call up of a camera, a camera under a *Hold* condition, or normal sequencing of cameras. In the *Blanking Mode*, Monitor B will show either an alarm call up of a camera, a camera under a *Hold* condition, or a blank screen.

Operating Modes	
Monitor A	Monitor B
<i>Sequencing Mode</i>	
1. Normal sequencing of camera inputs	1. Normal sequencing (same as Monitor A)
	2. <b>HOLD</b> condition
	3. <b>ALARM</b> condition
<i>Blanking Mode</i>	
1. Normal sequencing of camera inputs	1. Blank screen
	2. <b>HOLD</b> condition
	3. <b>ALARM</b> condition

#### 4.10 Alarm Reset Mode

There are two *Alarm Reset* modes, *AUTO* and *MANUAL* (see SCREEN 4). In the *AUTO* reset mode, alarm call ups automatically reset after the *Alarm Capture Time* has expired. In the *MANUAL* reset mode, alarm call ups are held until manually reset via **SKIP/clr**. **SKIP/clr** toggles the selection pointer between the two modes. The default is *AUTO*.



Screen 4

### 4.11 Alarm Capture

This menu item appears only if the *Auto Alarm* reset mode is selected (see SCREEN 5). When the *Alarm Capture* is ON, alarm call ups are held for at least the length of their *Alarm Capture Time*. After its *Alarm Capture Time* has expired, the alarm call up remains as long as its contact closure exists. When the *Alarm Capture* is OFF, alarm call ups are held only as long as its contact closure is detected. The default is ON.



Screen 5

### 4.12 Alarm Capture Time

This menu item appears only when the *Alarm Capture* is ON (see SCREEN 6). The *Capture Time* specifies the minimum length of time that the alarm call up will be held, once its contact closure is detected. During multiple alarms, the *Capture Time* expires only while the alarm is being displayed. Use **SKIP/clr** to decrease time and **ALARM** to increase time. Alarm capture time can be set from 1 second to 63 seconds. The default time is 14 seconds.



Screen 6

### 4.13 Alarm Dwell Time

The *Alarm Dwell Time* determines how long each alarm call up is displayed during sequencing of multiple alarms (see SCREEN 7). Use **SKIP/clr** to decrease time and **ALARM** to increase time. *Alarm Dwell Time* can be set from 1 second to 64 seconds. The default time is two seconds.



Screen 7

### 4.14 Alarm Contact Closures

This screen enables the user to set alarm contact closures as **NORMALLY OPEN** or **NORMALLY CLOSED**. Press **SKIP/clr** to choose between the two options. The default is **NORMALLY OPEN** (see SCREEN 8).



Screen 8

#### 4.15 Status Line

This menu determines what will be displayed on the on-screen *Status Line*. There are three options: 1. A full status line, which contains the camera number, camera title, sequence mode, and alarm status information, 2. Camera number and title only, or 3. Nothing at all (see SCREEN 9). **SKIP/clr** toggles the selection pointer of the modes. The default is a full status line.



Screen 9

**CAUTION:** Selecting the status line option other than the *full status* does not display the word *ALARM* on the video.

#### 4.16 Screen Display Brightness and Background

The display brightness may be adjusted over seven levels from black to white (see SCREEN 10). The display background may be selected as silhouette (profile), no silhouette (no profile), or block format. Use **SKIP/clr** to make the display lighter, and **ALARM** darkens the display. When the end of the brightness range has been reached, the background format will toggle. The default background is silhouette.



Screen 10

#### 4.17 Screen Display Position

The display may be positioned both horizontally and vertically (see SCREEN 11). The numeric **1** key is used to move the display up, **2** to move down, **3** to move left and **4** to move right. The default is bottom center of the monitor screen.



Screen 11

#### 4.18 Programming Camera Titles

With video present, access the *Title Programming* menu by pressing and holding **RUN/next** then pressing the numeric **3** key (see SCREEN 12).



Screen 12

Once in the title setting screen:

- To call up and program the title for a particular camera, enter the desired camera number via the numeric keys. This displays the entered camera # on all monitors (if video present).
- To move the cursor on the title screen, press **RUN/next**.
- To increment characters, press **ALARM**.
- To decrement characters, press **SKIP/clr**.
- To exit, press **DWELL**.

NOTE: These functions can be performed at a faster speed by pressing and holding the respective keys for a few seconds.

NOTE: For applicable characters, see SECTION 7, FONT TABLES.

## 5 OPERATION

### 5.1 DWELL Key

**DWELL** is used to enter the *Dwell Time* configuration menu and to enter other menus. A momentary push will enter the *Dwell Time* menu. Holding **DWELL** for over one second will enter the program mode.

### 5.2 SKIP/clr Key

**SKIP/clr** has two uses. The first use is to program which cameras will be in the switching sequence. This key toggles the displayed camera in or out of the sequence. An *X* will be lit to the left of the selected camera number if it is excluded from the sequence. Pressing **SKIP/clr** while a sequence is running immediately removes the camera from the sequence and advances to the next camera. An alarm closure on a skipped camera calls up that camera. This key also clears the displayed camera's alarm display. The cleared camera is not called up again until the alarm closure occurs again for that camera.

### 5.3 ALARM Key

**ALARM** toggles the alarm function on and off.

When the Alarm is on:

- The alarm indicator LED is lit and the notation *MA* (Monitor Armed) appears on the status line (appears only on Monitor B for the LTC 5108 Series).
- The switcher responds to all incoming alarms. During the alarm period, the word *ALARM* flashes on the status line, and the alarm LED flashes.

When the Alarm is off:

- The alarm indicator LED is not lit and no *MA* notation is present on the status line.

When the alarm function is off, the switcher will not react to incoming alarms at that moment.

### 5.4 RUN/next Key

When multiple alarm call ups are present, **RUN/next** sequences to the next triggered camera. If no alarm call-ups are present and a *hold* is present, then the key removes that hold. Lastly, if there are no "holds" or alarm call ups, then by momentarily pressing the key, the sequence can be immediately advanced to the next camera input, or by continuously pressing the key, the sequence will rapidly sequence. The **RUN/next** LED lights whenever switchers are sequencing, and goes out whenever a HOLD is issued.

### 5.5 Numeric Channel Keys

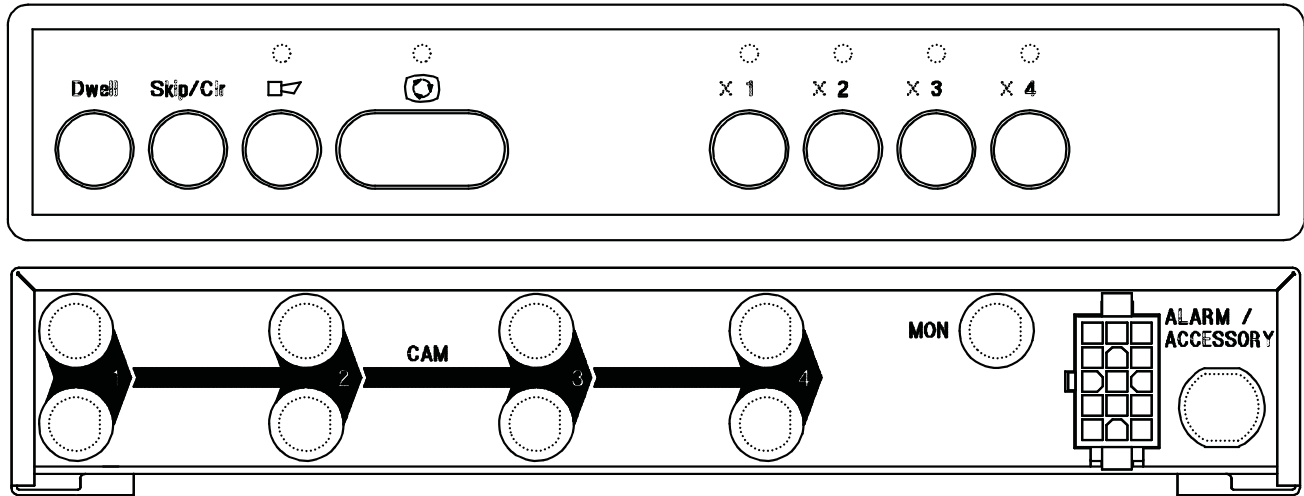
These keys will issue a *hold* on their respective camera inputs. The monitor (only Monitor B for the LTC 5108 Series) will stop sequencing (or BLANKING in the *BLANKING* mode) and display that camera's video until either:

- A. Another **Numeric Channel** key is pressed, or
- B. The **RUN/next** key is pressed, or
- C. An alarm call up occurs on another camera.

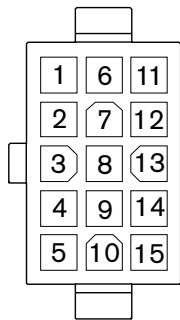
If the **Channel** key is held down, the display of any cameras currently in an alarm condition can be overridden.

## 6 ILLUSTRATIONS

### 6.1 LTC 5104 Series



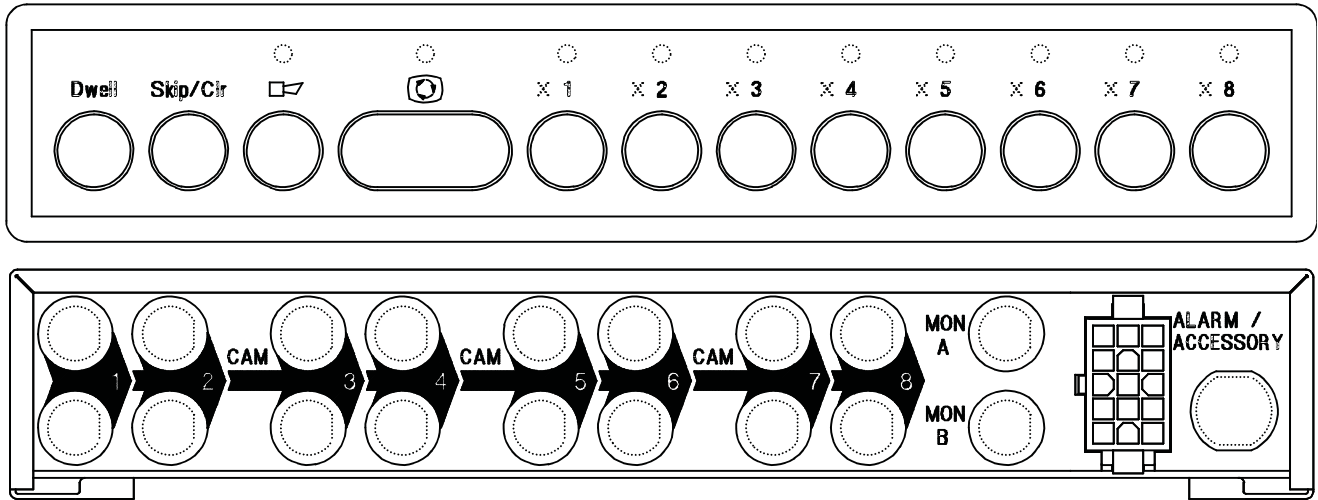
Screen 13 Front Panel and Back Panel



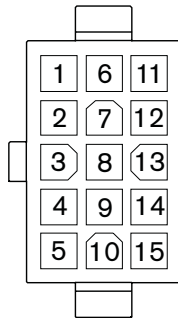
Screen 14 Connector Diagram

Pin	Function
1	Ground
2	Alarm 3
3	NC
4	Reserved
5	Reserved
6	Alarm 1
7	Alarm 4
8	NC
9	Alarm Relay (NO)
10	Reserved
11	Alarm 2
12	NC
13	NC
14	Alarm Relay (NO)
15	Reserved
NC	No Connection
NO	Normally Open

## 6.2 LTC 5108 Series

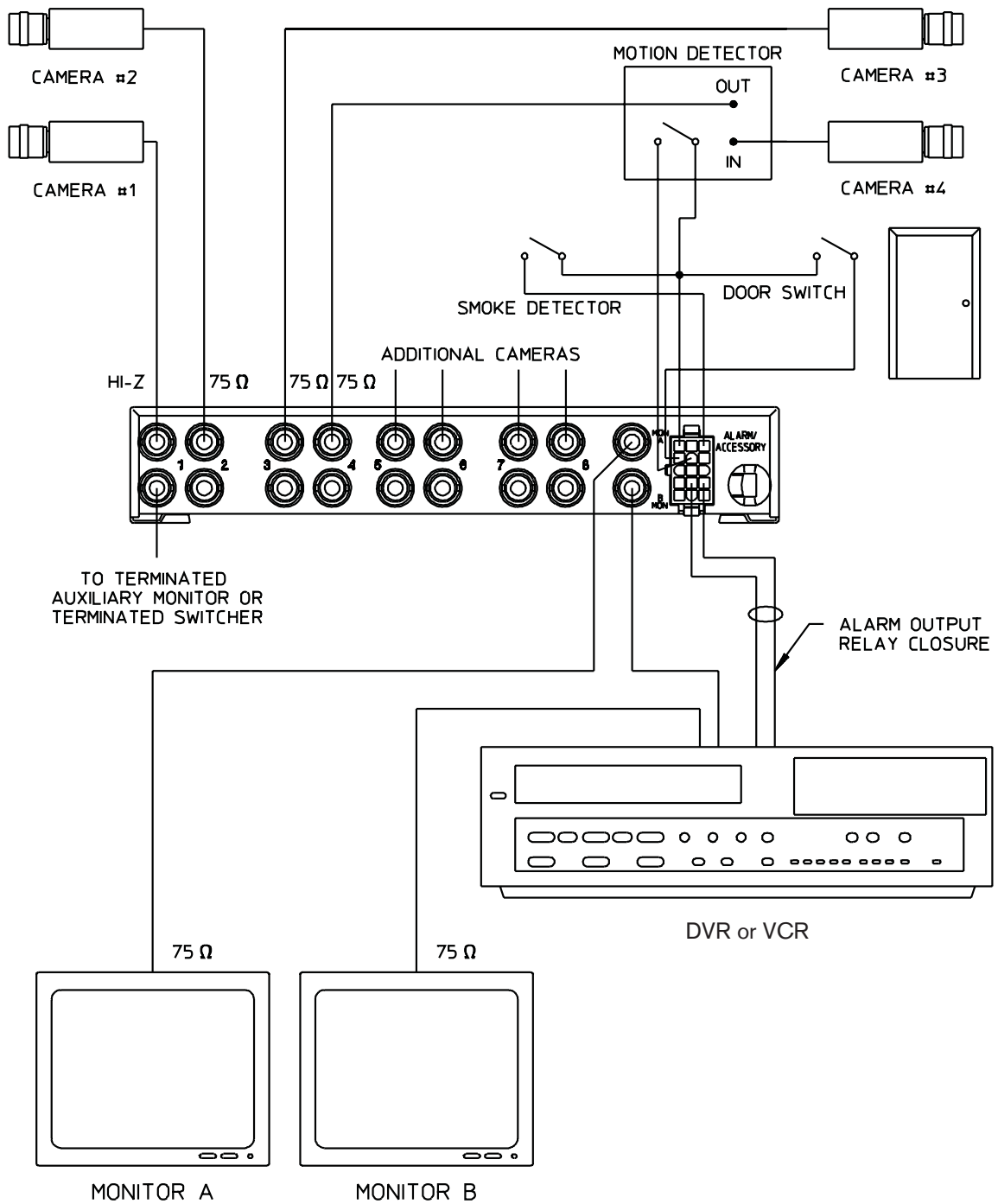


Screen 15 Front Panel and Back Panel



Screen 16 Connector Diagram

Pin	Function
1	Ground
2	Alarm 3
3	Alarm 6
4	Monitor Strobe 1
5	Data 0
6	Alarm 1
7	Alarm 4
8	Alarm 7
9	Alarm Relay (NO)
10	Data 1
11	Alarm 2
12	Alarm 5
13	Alarm 8
14	Alarm Relay (NO)
15	Data 2
NO	Normally Open



Screen 17 Typical Installation Using LTC 5108 Series Switcher



## 7 FONT TABLES

0	1	2	3	4	5	6	7
8	9	:		<	=	>	?
█	A	B	C	D	E	F	G
H	I	J	K	L	M	N	—
P	Q	R	S	T	U	V	W
X	Y	Z	Ä	Ö	Å	Ü	§
/	a	b	c	d	e	f	g
h	i	j	k	l	m	n	o
p	q	r	s	t	u	v	w
x	y	z	ä	ö	å	ü	μ
à	á	â	ã	è	é	ë	ê
ç	î	í	î	ñ	ò	ó	õ
ù	ú	û	'	ı	ô	ï	⌘
⊗	⊕	▷	◁	Æ	æ	∅	ø
Ⓚ	!	φ		ß	È	Ã	Ç
(	)	*	+	,	.	clear space	





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